

Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

AIR QUALITY PERMIT

Permittee Name: Vanderbilt Chemical & Minerals Corporations
Mailing Address: ATTN: General Manager
396 Poor Farm Road - East
Murray, Kentucky 42071

Source Name: Vanderbilt Chemical & Minerals Corporations
Source Address: 396 Poor Farm Road - East
Source Location: Murray, Kentucky 42071

Permit Type: Federally Enforceable
Review Type: Title V
Permit Number: V-02-011
Log Number: 50724/F929, 53350, 54281
Application
Complete Date: February 8, 2000

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Region: Paducah
County: Calloway

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John S. Lyons, Director
Division for Air Quality

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SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

CHEMICAL PLANT:

AREA 11 - CHEMICAL MANUFACTURING PROCESS:

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
125(11-438-01)	AREA 11Reactor	11-440-01
125(11-438-01)	Reflux Tank	11-407-26
Installed - 1969		
183(A16-1)	Reactor Condenser	11-438-01
Installed - 1969		
Control equipment: Area 16 Centralized Acid/Caustic Scrubber		
100(A11-1)	Amine Tank	11-407-04
Installed - 1969		
101(A11-2)	CS ₂ Weigh Tank	11-407-02
Installed - 1969		
159(A16-1)	VL Product Tank	11-407-27
160(A16-1)	VL Product Tank	11-407-28
161(A16-1)	VL Product Tank	11-407-29
Installed - 1999		
Control equipment: Area 16 Centralized Acid/Caustic Scrubber		

APPLICABLE REGULATIONS:

401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984* applies to tanks with EIS # 's 159, 160 & 161.

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

Regulations Not Applicable:

401 KAR 61:050 *Standards of Performance of Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and prior to May 19, 1978* does not apply because no petroleum liquids are stored or the tanks were constructed prior to the above dates.

SECTION B – EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

401 KAR 59:050 *New storage vessels for petroleum liquids* constructed on or after April 9, 1972 and prior to July 24, 1984 with a storage capacity less than or equal to 151,400 liters (40,000 gallons), and to each affected facility with a storage capacity less than 40,000 liters (10,567 gallons) constructed on or after July 24, 1984, which is located in an urban county designated nonattainment for ozone under 401 KAR 51:010 or in any other county and is a part of a major source of volatile organic compounds.

401 KAR 60:005 (40 CFR Subpart K) *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.*

401 KAR 60:005 (40 CFR 60 Subpart Ka) *Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and prior to July 23, 1984.*

401 KAR 60:005 (40 CFR Subpart VV), *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry* is not applicable to the AREA 11 Process and Storage Units because this area does not produce chemicals listed in Subpart VV.

401 KAR 63:002 (40 CFR Subpart G) *National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater* is not applicable to the AREA 11 Process and Storage Units because this unit does not produce chemicals listed in Table 1 of 40 CFR 63, Subpart F as a primary product.

401 KAR 63.002 (40 CFR 40 Subpart H) *National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks* is not applicable to the AREA 11 Process and Storage Units because this area does not produce chemicals listed in Table 1 of 40 CFR 63, Subpart F as a primary product.

401 KAR 60:005 (40 CFR Subpart RRR) *Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes* is not applicable to the AREA 11 Process and Storage Units because this area does not produce chemicals listed in Subpart RRR.

1. Operating Limitations:

Records of tank dimensions shall be maintained.

Compliance Demonstration Method:

Please refer to **Section B.5.b.**, below).

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS
(CONTINUED)**

2. Emission Limitations:

Refer to SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS. (Section D.2.)

3. Testing Requirements:

Refer to SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS. Section D.3. applies to emissions of hydrogen peroxide and VOCs.

4. Specific Monitoring Requirements:

Refer to SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS. Section D.4. applies to monitoring of hydrogen peroxide and VOCs.
Refer to Section E for the Carbon disulfide tank water seal level.

5. Specific Recordkeeping Requirements:

- a. Refer to SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS. Section D.5. applies to recordkeeping for hydrogen peroxide emissions.
- b. Maintain volatile organic liquid (VOL) storage tank dimensions on site.
- c. Maintain a log of Carbon disulfide tank water seal checks. Refer to Section E for requirements.

6. Specific Reporting Requirements:

Refer to SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS. Section D.6. applies to reporting for hydrogen peroxide and VOCs.

7. Specific Control Equipment Operating Conditions:

Please refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM.**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 12 - CHEMICAL MANUFACTURING PROCESS:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
128(12-432-02) Installed - 1969	Main Reactor	12-440-01
184(A16-1) Installed - 1969 Control equipment: Area 16 Centralized Acid/Caustic Scrubber	Condenser	12-432-02
129(12-432-01)	Precipitation Reactor	12-440-03
129(12-432-01) Installed - 1969	Decanter	12-407-23
185(A16-1) Installed - 1969 Control equipment: Area 16 Centralized Acid/Caustic Scrubber	Condenser	12-432-01
130(A16-1) Installed - 1969 Control equipment: Area 16 Centralized Acid/Caustic Scrubber	Metal Salt Reactor	12-440-02
131(12-432-05)	Centrifuges	12-437-01,02 & 03
022(A12-2) Installed - 1969	Condenser	12-432-05
102(A12-1) Installed - 1969	Solvent Tank	12-407-04
127(A16-1)	Amine Tank	12-407-05
126(A16-1) Installed - 1969 Control equipment: Area 16 Centralized Acid/Caustic Scrubber	CS ₂ Weigh Tank	12-407-01
021(A12-9)	Centrifuge Feed Tank	12-407-11
023(A12-3) Installed - 1969	Liquor Tanks	12-407-12 & 13
043(A12-9) Installed - 1993	H ₂ O ₂ Feed Tank	12-407-22
024(A12-4) Installed - 1969	Ribbon Blenders	12-469-03,04,05
104(12-436-03)	Venturi Dryer	12-422-05
104(A12-5)	Venturi Collector	12-436-03

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Installed - 1969

084(12-436-01)	Mill	12-453-01
084(A12-6)	Mill Collector	12-436-01

Installed - 1969

105(A12-7)	House Keeping Collector	12-436-02
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Installed - 1969

106(A12-8)	Tunnel Dryer	12-469-06
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Installed - 1969

APPLICABLE REGULATIONS:

401 KAR 61:020, *Existing process operations*, constructed prior to July 2, 1975.

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, April 9, 1972.

Regulations Not Applicable:

401 KAR 61:050. *Existing storage vessels for petroleum liquids* constructed before April 9, 1972 which is located in a county or portion of a county which is designated ozone nonattainment, for any nonattainment classification except marginal, under 401 KAR 51:010.

401 KAR 59:050 *New storage vessels for petroleum liquids* constructed on or after April 9, 1972 and prior to July 24, 1984 with a storage capacity less than or equal to 151,400 liters (40,000 gallons), and to each affected facility with a storage capacity less than 40,000 liters (10,567 gallons) constructed on or after July 24, 1984, which is located in an urban county designated nonattainment for ozone under 401 KAR 51:010 or in any other county and is a part of a major source of volatile organic compounds.

401 KAR 60:005 (40 CFR Subpart K) *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.*

401 KAR 60:005 (40 CFR 60 Subpart Ka) Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and prior to July 23, 1984.

401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23.*

401 KAR 60:005 (40 CFR Subpart VV), *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry.*

401 KAR 63:002 (40 CFR Subpart G) *National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage* SECTION B –

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Vessels, Transfer Operations, and Wastewater.

401 KAR 63.002 (40 CFR 40 Subpart H) *National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks.*

401 KAR 60:005 (40 CFR Subpart RRR) *Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.*

1. Operating Limitations: NA**2. Emission Limitations:**

- a. Pursuant to 401 KAR 61:020 emissions of particulate matter (PM) shall not exceed 2.58 lbs./hr per each emission point A12-4*, 5*, 6*, 7* and 8*.
- b. Pursuant to 401 KAR 61:020, Section 3(a), visible emissions shall not equal or exceed 40% opacity per each emission point A12-4*, 5*, 6*, 7* and 8*.
- c. Refer to Section D – Source Emission Limitations and Testing Requirements. Section D.2. applies to emissions of hydrogen peroxide.

Compliance Demonstration Method:

- a. For PM hourly emission limits:
Hourly Emission Rate (per emission point*): = [Monthly Production of Area 12 Accelerator Production in tons x (3.0 lbs. /ton)/Monthly Hours of operation]
Refers to each emission point indicated by * above.
- b. Compliance with the opacity limits shall be demonstrated through visible observations in accordance with the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in the Area.
- b. The hours per month of operation for the Area 12 Production.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS
(CONTINUED)**

- b. if emissions do not appear normal, shutdown and take corrective action;
- 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. within permit limits, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. Within permit limit, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. Refer to Section E for the Carbon disulfide tank water seal level.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs or computer records on the identification and weight of material produced in the AREA 12.
- b. Total reactor production and emissions from the Area 12 process shall be summarized monthly.
- c. Specific records of the monthly production and emissions and visual observation of emission points for the respective production area shall be made available for inspection at the request of the division.
- d. Maintain a log of Carbon disulfide tank water seal checks. Refer to Section E for requirements.

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS
(CONTINUED)**

6. Specific Reporting Requirements:

Please refer to General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Please refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM.**

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS
(CONTINUED)****AREA 13 BATCH STILL:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
132(13-432-02)	Batch Still	13-432-01
132(13-432-02)	Column	13-438-01
132(13-432-02)	Decanter Tank	13-407-01
Installed - 1969		

132(A16-1) Still Condenser 13-432-02
Installed - 1969
Control equipment: Area 16 Centralized Acid/Caustic Scrubber

APPLICABLE REGULATIONS:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, April 9, 1972

Regulations Not Applicable:

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. **Operating Limitations:** None
2. **Emission Limitations:** None
3. **Testing Requirements:** None
4. **Specific Monitoring Requirements:** None
5. **Specific Recordkeeping Requirements:** None
6. **Specific Reporting Requirements:** None
7. **Specific Control Equipment Operating Conditions:**
Please refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM.**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 14 - CHEMICAL MANUFACTURING PROCESS:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
162(14-432-01)	Reactor	14-440-01
163(14-432-01)	Decanter	14-407-06
163(14-432-01)	Complex Tank	14-407-02
164(A16-1)	Condenser	14-432-01

Installed - 1974

Installed - 1974

Control equipment: Area 16 Centralized Acid/Caustic Scrubber

165(A16-1)	Amine Weigh Tank	14-407-01
166(A16-1)	Slurry Hold Tank	14-407-03
167(A16-1)	#1 Storage Tank	14-407-04

Installed - 1974

Control equipment: Area 16 Centralized Acid/Caustic Scrubber

133(14-436-03)	Spray Dryer System	14-428-01
		and 14-429-03
026(A14-1)	Collector	14-436-03
027(14-436-01)	Sweco Mill	14-453-04
027(A14-2)	Product Collector & Bin	14-436-01
		and 14-410-02

Installed - 1974

107(A14-3)	ACM Collector	14-436-02
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Installed - 1974

APPLICABLE REGULATIONS:401 KAR 61:020. *Existing process operations* constructed prior to July 2, 1975.401 KAR 63:020, *Potentially hazardous matter or toxic substances*, April 9, 1972**Regulations Not Applicable:**401 KAR 63:021, *Existing sources emitting toxic air pollutants***1. Operating Limitations:** NA

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS
(CONTINUED)****2. Emission Limitations:**

- a. Pursuant to 401 KAR 61:020 emissions of particulate matter (PM) shall not exceed 2.58 lbs./hr per each emission point A14-1*, 2* and 3*.
- b. Pursuant to 401 KAR 61:020, Section 3(a), visible emissions shall not equal or exceed 40% opacity per each emission point A14-1*, 2* and 3*.

Compliance Demonstration Method:

- a. For PM hourly emission limits:
Hourly Emission Rate (per emission point*) = [Monthly Production from Area 14 in tons x (3.0 lbs./ton)/Monthly Hours of operation]
Refers to each emission point indicated by * above.
- b. Compliance with the opacity limits shall be demonstrated through visible observations in accordance with the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in the Area 14 .
- b. The hours per month of operation for the Area 14.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs of the identification and weight of the materials produced in Area 14 process.
- b. Total production and emissions from Area 14 shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective production area shall be made available for inspection at the request of the division.

6. Specific Reporting Requirements:

Please refer to General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Please refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM.**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 17 - CHEMICAL MANUFACTURING PROCESS:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
168(17-432-02)	Main Reactor	17-440-02
168(17-432-02)	Reflux Tank (system)	17-407-14
170	Condenser	17-432-02
Installed – 1979		

(Note - see CS₂ Recovery/NaSH Process equipment in Insignificant Activities)

171(17-432-03)	Precipitation Reactor	17-440-03
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171(17-432-03)	Reflux Tank (system)	17-407-15
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Installed - 1979

173 (A17-1)	Condenser	17-432-03
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Installed - 1979

Control equipment: A17 Fiberglass Scrubber

136(17-432-06)	Centrifuges (2)	17-437-01 &02
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Installed - 1979

137(A17-1)	Condenser	17-432-06
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Installed - 1979

Control equipment: A17 Fiberglass Scrubber

135(A16-1)	Amine Tank	17-407-04
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134(A16-1)	Misc. Weigh Tank	17-407-16
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186(A16-1)	CS ₂ Weigh Tank	17-407-05
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Installed - 1979

Control equipment: Area 16 Centralized Acid/Caustic Scrubber

003(A17-2)	Shared Misc. Weigh Tanks	17-407-02
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214(A17-10)	Shared Misc. Weigh Tank	17-407-06
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Installed - 1979

138(17-432-06)	Liquor Tanks (2)	17-407-10 & 11
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Installed - 1979

112(A17-9)	Misc. ROH Tank	17-407-21
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045(A17-8)	Misc. ROH Tank	17-407-23
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Installed - 1979

210(A17-1)	Centrifuge Feed Tank	17-407-26
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024(A17-3)	Ribbon Blenders (2)	17-469-01 &02
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SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

008(17-436-02)	Venturi Dryer	17-422-01
008(A17-7)	Venturi Collector	17-436-02
(A17-7 can be vented to Fiberglass Scrubber - A17-1)		
Installed - 1979		

010(17-436-04)	Spray Dryer	17-429-01
108(A17-4)	Collector	17-436-04
Installed - 1979		

009(17-436-03)	Mill	17-453-01
109(A17-5)	Product Collector	17-436-03
(A17-5 can be vented to Fiberglass Scrubber - A17-1)		
110(17-6)	House Keeping Collector	17-436-01
Installed - 1979		

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations* constructed after July 2, 1975.

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

1. Operating Limitations:**2. Emission Limitations:**

- a. Pursuant to 401 KAR 59:010, Appendix A, emissions of particulate matter (PM) shall not exceed 2.34 lbs./hr per each emission point A17-4*, 5*, 6* and 7*.
- b. Pursuant to 401 KAR 59:010, Section 3(a), visible emissions shall not equal or exceed 20% opacity per each emission point A17-4*, 5*, 6* and 7*.
- c. Refer to Section D.2.

Compliance Demonstration Method:

- a. For PM hourly emission limits:
Hourly Emission Rate (per emission point*) = Monthly production of Area 17 in tons x (3.0 lbs./ton)/Monthly hours of operation]

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Refers to each emission point indicated by * above.

- b. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in the Area 17.
- b. The hours per month of operation for the Area 17.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 - 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 - 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. within permit limits, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. Within permit limit, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1. color,
2. emission density relative to normal for that EP (e.g., light, medium, heavy),
3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. Refer to Section E for the Carbon disulfide tank water seal level.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs of the identification and weight of the materials produced in the Area 17.
- b. Total production and emissions from Area 17 shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective production area shall be made available for inspection at the request of the division.
- d. Maintain a log of Carbon disulfide tank water seal checks. Refer to Section E for requirements.

6. Specific Reporting Requirements:

Please refer to General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM and AREA 17 FIBERGLASS SCRUBBER SYSTEM.**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 17a - CHEMICAL MANUFACTURING PROCESS :**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
187(17a-432-01)	Main Reactor	17a-440-01
187(17a-432-01)	Reflux Tank	17a-407-02
188	Condenser	17a-432-01

(Note - see CS₂ Recovery/NaSH Process equipment in Insignificant Activities)

Installed - 1993

189(17-432-01)	Precipitation Reactor	17-440-01A
189(17-432-01)	Reflux Tank	17-407-17
190(A17-1)	Condenser	17-432-01

Installed - 1993

Control equipment: A17 Fiberglass Scrubber

140(17a-432-10)	LUWA Evaporator	17a-431-01
141(17a-432-10)	Liquor Tank	17a-407-03
142(A17-1)	Condenser	17a-432-10

Installed - 1979

(LUWA was originally associated with A17)

Control equipment: A17 Fiberglass Scrubber

050(A17a-4)	Misc. Weigh Tank	17a-407-01
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Installed - 1979

052(17a-436-01)	Venturi Dryer	17a-422-01
052(A17a-1)	Collector	17a-436-01

Installed - 1993

053(17a-436-02)	ACM Mill	17a-453-01
053(A17a-2)	Product Collector	17a-436-02

Installed - 1993

113(A17a-3)	House Keeping Collector	17a-436-03
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Installed - 1993

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations* constructed after July 2, 1975.

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**1. Operating Limitations:** NA**2. Emission Limitations:**

- a. Pursuant to 401 KAR 59:010 emissions of particulate matter (PM) shall not exceed 2.34 lbs./hr per each emission point A17a-1*, 2* & 3*.
- b. Pursuant to 401 KAR 59:010, Section 3(a), visible emissions shall not equal or exceed 20% opacity per each emission point A17a-1*, 2* & 3*.
- c. Refer to Section D.2.

Compliance Demonstration Method:

- a. For PM hourly emission limits:
Hourly Emission Rate (per emission point*) = [Monthly Production of Area 17a in tons x (3.0 lbs./ton)/Monthly hours of operation]
Refers to each emission point indicated by * above.
- b. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in the Area 17a.
- b. The hours per month of operation for the Area 17a.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. Within permit limit, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. Refer to Section E for the Carbon disulfide tank water seal level.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs on the identification and weight of the materials produced in the Area 17a.
- b. Total production and emissions from the Area 17a shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective production area shall be made available for inspection at the request of the division.
- d. Maintain a log of Carbon disulfide tank water seal checks. Refer to Section E for requirements.

6. Specific Reporting Requirements:

Pursuant to State Regulation 401 KAR 52:020, Permits, Section 7, the permittee shall upon request submit information to the division.

7. Specific Control Equipment Operating Conditions:

Refer to **Section E, Area 16 CENTRALIZED ACID/CAUSTIC SCRUBBER SYSTEM and AREA 17 FIBERGLASS SCRUBBER SYSTEM**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 20 CHEMICAL MANUFACTURING PROCESS:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
177(20-432-01)	Main Reactor	20-440-01
178(20-432-01)	Reflux Tank (system)	20-407-08
179(A20-1)	Condenser	20-432-01
Installed - 1988		
Control equipment: Area 20 Scrubber System		
180(20-432-02)	Precipitation Reactor	20-440-02
<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
177(20-432-01)	Main Reactor	20-440-01
178(20-432-01)	Reflux Tank (system)	20-407-08
179(A20-1)	Condenser	20-432-01
Installed - 1988		
Control equipment: Area 20 Scrubber System		
180(20-432-02)	Precipitation Reactor	20-440-02
181(20-432-02)	Reflux Tank (system)	20-407-09
182(A20-1)	Condenser	20-432-02
Installed - 1988		
Control equipment: Area 20 Scrubber System		
144(20-432-04)	<i>LUWA</i> Evaporator	20-431-02
(Vents through 20-432-04 Condenser; see below)		
Installed - 1988		
143(20-432-04)	Centrifuges (2)	20-437-01 & 02
036(A20-2)	Condenser	20-432-04
Installed - 1988		
033(A20-1)	Misc. Weigh Tank	20-407-01
145(20-432-04)	Liquor Tanks (2)	20-407-06, 07
(145 vents through condenser 20-432-04; see section above)		
Installed - 1988		
Control equipment: Area 20 Scrubber System		

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
117, 118(A20-6) Installed - 1988	Ribbon Blender	20-469-01,02
039(20-436-01) 114(A20-3) Installed - 1988	Venturi Dryer Venturi Collector (system)	20-422-01 20-436-01
040(20-436-03) 115(A20-4) Installed - 1988	Mill Product Collector (system)	20-453-01 20-436-03
116(A20-5) Installed - 1988	House Keeping Collector	20-436-02
042a(20-432-05) 042b(20-432-05) 042c(20-432-05) 042d(A20-1) Installed - 1988	Batch Still Column Decanter Tank Still Condenser	20-432-06 20-436-01 20-407-11 20-432-05
Control equipment: Area 20 Scrubber System		

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations* constructed after July 2, 1975

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.*

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**Regulations Not Applicable:**

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. Operating Limitations: NA**2. Emission Limitations:**

- a. Pursuant to 401 KAR 59:010 emissions of particulate matter (PM) shall not exceed 2.34 lbs./hr per each emission point A20-3*, 4* and 5*.
- b. Pursuant to 401 KAR 59:010, Section 3(a), visible emissions shall not equal or exceed 20% opacity per each emission point A20-3*, 4* and 5*.
- c. Refer to Section D.

Compliance Demonstration Method:

- a. For PM hourly emission limits:
Hourly Emission Rate (per emission point*)= [Monthly Production from Area 20 in tons x (3.0 lbs./ton)/Monthly hours of operation]
Refers to each emission point indicated by * above.
- b. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in Area 20.
- b. The hours per month of operation for Area 20.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. Within permit limit, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
- 4. The permittee shall make a written record of all observations, information and corrective action(s).

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs on the identification and weight of the materials produced in Area 20.
- b. Total production and emission from Area 20 shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective production area shall be made available for inspection at the request of the division.
- d. Maintain Volatile Organic Liquid tank vessel dimensions.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Refer to Section E, AREA 20 SCRUBBER SYSTEM.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 21 - CHEMICAL MANUFACTURING PROCESS:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
203(21-485-01)	Acid Reactor	21-440-01
210(21-485-01)	R - 1 Reactor	21-440-04
Installed - 1989		
Control equipment: Area 21 Scrubber System		
041(A21-2)	Mix Tank	21-407-06
047(A21-3)	Butanol Tank (#2103)	21-407-09
2124(A21-4)	Butanol Charge Tank	21-407-15
Installed - 1989		
(* Neither tank is greater than 40 m ³ in size.)		

APPLICABLE REGULATIONS:

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, April 9, 1972

Regulations Not Applicable:

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. **Operating Limitations:** NA
2. **Emission Limitations:** None
3. **Testing Requirements:** None
4. **Specific Monitoring Requirements:** None
5. **Specific Recordkeeping Requirements:** None
6. **Specific Reporting Requirements:**
See General Conditions F.5.
7. **Specific Control Equipment Operating Conditions**
Refer to Section E, **AREA 21 SCRUBBER SYSTEM.**

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 31 - TANK FARM:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
007(A31-1) Installed - 1979	Alcohol Tank #18	31-407-20
121(A31-3)	Diamyl Amine Tank #9	31-407-03
006(A31-4)	Alcohol Tank #5	31-407-15
122(A31-5)	Alcohol Tank #6	31-407-16
123(A31-6)	Amine Tank #15	31-407-11
099(A31-13)	Miscellaneous Tank (ROH)	31-407-07
100(A31-14)	Miscellaneous Tank (ROH)	31-407-08
102(A31-16)	Miscellaneous Tank (ROH)	31-407-12
101(A31-16) Installed - 1969	Miscellaneous Tank (ROH)	31-407-13
045(A31-8)	Alcohol Tank #19	31-407-22
124(A31-9)	Amine Tank #17	31-407-21
119(A31-10) Installed - 1979	Amine Tank #16	31-407-23
035(A31-2) Installed - 1988	Alcohol Tank #202	31-407-26
037(A31-11) Installed - 1988	Amine/Alcohol Tank #201	31-407-27
157(A16-1)	Sodium Hydrosulfide Solution Tank #20	31-407-24
Installed 1994 - (Associated with CS ₂ Recovery Unit of Area 17a)		
Control equipment: Area 16 Centralized Acid/Caustic Scrubber		
146, 147	CS ₂ Tank	3-407-01/02
120(A31-12) Installed - 1969	CS ₂ Tank Pit	Tank Pit
148(A16-1)	Amine/Alcohol Tank	31-407-04
149(A16-1)	Amine/Alcohol Tank	31-407-05
150(A16-1)	Amine/Alcohol Tank	31-407-09
152(A16-1)	Amine/Alcohol Tank	31-407-14
211(A16-1)	Amine/Alcohol Tank	31-407-18
212(A16-1)	Amine/Alcohol Tank	31-407-28
Control equipment: Area 16 Scrubber System		
Installed 1969		
038(A20-1)	Amine Tank #203	31-407-25

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

APPLICABLE REGULATIONS:

401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*

401 KAR 63:020, *Potentially hazardous matter or toxic substances*, April 9, 1972

Regulations Not Applicable:

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. Operating Limitations :

- a. The permittee shall determine and maintain tank dimensions [40 CFR 60.115b and 60.116b].
- b. A water seal shall be maintained on the Carbon disulfide tanks at all times.
- c. The Sodium Hydrosulfide tank shall be vented through a scrubber that uses caustic solution (either the caustic portion of the A-16 Central System Scrubbers or the A17 *Fiberglass* Scrubber) at all times.

Compliance Demonstration Method:

- a. Please refer to **Item 5**, below.
- b. Records should be maintained of periods when the sodium hydroxide plus amine are not vented to A-16 or A-17 Scrubbers.

2. Emission Limitations: None

3. Testing Requirements: None

4. Specific Monitoring Requirements:

Monitor periods when the sodium hydroxide plus amine are not vented to A-16 or A-17 Scrubbers.

5. Specific Recordkeeping Requirements:

- a. Pursuant to 40 CFR 60, Subpart Kb, paragraphs 60.115b and 60.116b, the permittee shall obtain and maintain tank dimensions and records.
- b. Maintain records of periods when the sodium hydroxide plus amine are not vented to A-16 or A-17 Scrubbers.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Please refer to **Section E** for Area 20 Scrubber System, A-16 and A-17 Scrubber, carbon disulfide tank. water seal level.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 44 - HYDROGEN PEROXIDE STORAGE TANK:**

Note: Hydrogen Peroxide may be used in other Areas of production, but all emissions losses are accounted for through this tank. These are State origin requirements based on 401 KAR 63:021.

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
044(A44-1) Installed - 1993	Hydrogen Peroxide Tank	44-407-07

APPLICABLE REGULATIONS:

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

Note: These are state regulations and requirements.

1. Operating Limitations: None**2. Emission Limitations:**

Refer to Section D. for Hydrogen peroxide emissions limits.

Compliance Demonstration Method:

Refer to Section D. for Hydrogen peroxide emissions limit compliance demonstration methods.

3. Testing Requirements:

Refer to Section D. for Hydrogen peroxide emissions testing requirements.

4. Specific Monitoring Requirements:

The permittee shall monitor the consumption of hydrogen peroxide and the hours of operation per month.

5. Specific Recordkeeping Requirements:

- The permittee shall maintain logs on the gallons of peroxide consumed from the Hydrogen Peroxide Storage Tank.
- Usage and emission calculations from the Hydrogen Peroxide Storage Tank shall be summarized monthly.
- Specific records (monthly usage and estimated emissions) for the Hydrogen Peroxide Storage Tank shall be made available for inspection at the request of division.

6. Specific Reporting Requirements:

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 72 - WAREHOUSE TOTE FILLING:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
030(A72-1) Installed - 1969	Warehouse Tote Filling	72-736-01

APPLICABLE REGULATIONS:

401 KAR 61:020. *Existing process operations* constructed prior to July 2, 1975.

Regulations Not Applicable:

401 KAR 63:020, *Potentially hazardous matter or toxic substances.*

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. Operating Limitations : None**2. Emission Limitations :**

- a. Pursuant to 401 KAR 61:020 emissions of particulate matter (PM) shall not exceed 2.58 lbs./hr per emission unit.
- b. Pursuant to Regulation 401 KAR 61:020, Section 3(a), visible emissions shall not equal or exceed 40% opacity.

Compliance Demonstration Method:

- a. For PM hourly emission limits (per emission unit):
Hourly Emission Rate = [Monthly Production in tons of Warehouse Tote Filling x (1.5 lbs./ton)/Monthly hour of operation]
Refers to emission point EIS 30 (A72-1).
Note: The emission factor includes the control device efficiency.
- b. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under Subsections **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements :

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1 and 40 CFR 60.736 performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements :

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production in the Warehouse Tote Filling Area.
- b. The hours per month of operation for the Warehouse Tote Filling Area.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

occur as follows:

1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. Within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs of the weight of the materials produced in Warehouse Tote Filling operation.
- b. Total raw material throughput and emissions from Warehouse Tote Filling shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) shall be

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

made available for inspection at the request of the division.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**MINERAL MANUFACTURING PLANT:****AREA-82 & 83 - BLENDING, DRYING AND PACKAGING:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
AA(82-436-01)	Elevators (5)	82-461-01 to 05
AA(82-436-01)	Silos (7)	82-410-01 to 07
AA(VG-1)	Raw Material Collector	82-436-01
AE(VG-3)	Drum Dryers (2)	83-432-01 & 02
AB(VG-2)	Product Collector	83-436-02
AJ(82-461-05)	Drum Flaker	82-452-01
A1(82-445-01)	Bucket Elevator	82-461-05
A2(82-436-04)	Blender	82-445-01
A3(VG-4)	Packaging Collector	82-436-04
AK(VG-5)	Housekeeping Collector	82-436-03
Installed 1979		

APPLICABLE REGULATIONS:

Regulation 401 KAR 59:010. *New Process Operations* constructed after July 2, 1975.

Regulations Not Applicable:

401 KAR 60:005 that incorporates 40 CFR Subpart UUU *Standards of Performance for Calciners and Dryers in Mineral*. This facility was constructed prior to this regulations implementation date of April 23, 1986.

401 KAR 63:021, *Existing sources emitting toxic air pollutants*

1. Operating Limitations: NA**2. Emission Limitations:**

- a. Pursuant to 401 KAR 59:010 emissions of particulate matter (PM) shall not exceed 2.34 lbs./hr for VG-1, 2, 3, 4 & 5, each.
- b. Pursuant to 401 KAR 59:010, Section 3(a), visible emissions shall not equal or exceed 20% opacity for VG-1, 2, 3, 4 & 5, each..

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**Compliance Demonstration Method:**

- a. For PM hourly emission limits (per emission unit) for VG-2, 4 & 5:
Hourly Emission Rate = [Monthly material used in tons x (3.0 lbs/ton)/Monthly hours of operation]
- b. For PM hourly emission limits (per emission unit) for VG-3:
Hourly Emission Rate = [Monthly material used in tons) x (27.0 lbs/ton)/Monthly hours of operation]
- c. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) usage rates in the Area 82/83.
- b. The hours per month of operation of the Area 82/83.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. Within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs of materials processed in the Area 82/83.
- b. Total raw material used and emissions from Area 82/83 production shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective processing area shall be made available for inspection at the request of the division.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 84 - Mineral's Spray Dryer with Scrubber:**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
AS(84-485-01) Control device: VG-6 Wet Scrubber	Spray Dryer (84-485-01)	84-451-01
AT (84-485-01)	NG Burner	84-428-01
AM (VG - 7) Installed 1997	Product Bin	84-410-08

APPLICABLE REGULATIONS:

401 KAR 59:010. *New Process Operations* constructed after July 2, 1975

401 KAR 60:005 which incorporates 40 CFR 60.730 to 60.737 (Subpart UUU), *Standards of Performance for Calciners and Dryers in Mineral Industries*.

1. Operating Limitations : None**2. Emission Limitations :**

- a. Emissions of PM shall not exceed 0.057 g/dscm for VG-6 Wet Scrubber (84-485-01) [401 KAR 60:005 (40 CFR 60.732(a))].
- b. The opacity of visible emissions shall not exceed 10% for VG-6 [40 CFR 60.732(b)].
- c. Emissions of PM shall not exceed 2.34 lbs/hour for VG-7 [401 KAR 59:010].
- d. The opacity of visible emissions shall not exceed 20% for VG-7 [401 KAR 59:010, Section 3(a)].

Compliance Demonstration Method:

- a. For the PM emission limit from VG-6 refer to **Items 4.d and 5.d.** below.
- b. For the PM hourly emission limit from VG-7,
Hourly Emission Rate = [Monthly production in tons from Spray Dryer x (1.0 lbs/ton) /
Monthly hours of operation]
- c. Compliance with the opacity limits shall be demonstrated by performing the monitoring and recordkeeping requirements listed under **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements** during all periods.

3. Testing Requirements :

- a. Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.
- b. Please refer to 40 CFR 60.736 for compliance with particulate matter standards.

4. Specific Monitoring Requirements :

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) production and material used in the Area 84 Spray Dryer.
- b. The hours per month of operation of the Area 84 Spray Dryer.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. For VG-7, visually survey emission point (VG-7) where particulate matter (PM) emissions might occur as follows:
 - 1. Perform a visual check within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 - 2. Perform visual checks weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. within permit limits, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
 - 3. Perform visual checks once every day or immediately after becoming aware of any malfunction, including malfunction of the control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. Within permit limit, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
 - 4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. The permittee shall calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss/change of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss/change monitoring device must be certified by the manufacturer to be accurate within 5% of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5% of design scrubbing liquid flow

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

rate [40 CFR 60.734(d)]. Please refer to **Item 5.d.** below.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs of the weight of the material processed in the Area 84 Spray Dryer.
- b. Total raw material used and emissions from the Area 84 Spray Dryer shall be summarized monthly.
- c. Specific records (monthly production and emissions and visual observations) for the respective processing areas shall be made available for inspection at the request of the division.
- d. Maintain monthly logs of the Area 84 Spray Dryer operating parameters as indicated under **7. Specific Control Equipment Operating Conditions** below (Please refer to **Section E.**).
- e. Please refer to 40 CFR 60.735 (a) and (b).

6. Specific Reporting Requirements:

Please refer to 60.735 (c), (c)(1), (c)(2), and (c)(3)

7. Specific Control Equipment Operating Conditions:

The permittee shall monitor the operating parameters for the Area 84 Spray Dryer Scrubber associated with Emission Point VG-6 as listed in Section E at the frequency indicated.

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**BOILERS****AREA 51-1 - No. 1 – BOILER**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
029(A51-1) Installed - 1975	North Boiler	51-426-01
Primary Fuel: Natural Gas		
Secondary Fuel: No. 2 Fuel Oil		
Maximum Rated Capacity: 42.4 mmBTU/Hour		

APPLICABLE REGULATIONS:

401 KAR 59:015 *New indirect heat exchangers constructed after April 9, 1972* applies to the particulate, sulfur dioxide and visible emissions.

Regulations Not Applicable:

This Emission unit is not subject to 401 KAR 60:005 (40 CFR Subpart Db) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 1984.

This Emission unit is not subject to 401 KAR 60:005 (40 CFR Subpart Dc) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 6/9/89.

1. Operating Limitations:

- a. The permittee shall use only natural gas or # 2 Fuel Oil as fuel [401 KAR 59:015].
- b. The sulfur content of the # 2 fuel oil shall not exceed 0.5% by weight [401 KAR 59:015].

Compliance Demonstration Method:

- a. The permittee shall monitor and record the monthly natural gas and # 2 Fuel Oil usage as required in **Items 4 and 5** below to demonstrate compliance.
- b. A record of the analysis of percent sulfur of each load of # 2 Fuel Oil or a certificate of analysis from the supplier for each load received shall be maintained.

2. Emission Limitations:

- a. Emission of particulate matter shall not exceed 0.271 lb/mmBTU [401 KAR 59:015 Section 4 (1)(b)].
- b. Emissions of sulfur dioxide shall not exceed 0.269 lb/mmBTU [401 KAR 59:015 Section 5 (1)(b)].
- c. The opacity of visible emission shall not exceed 20% [401 KAR 59:015, Section 4 (2)].

Compliance Demonstration Method:

- a. For Particulate Matter and Sulfur Dioxide Emissions:
This Boiler is assumed to be in compliance with particulate matter and sulfur dioxide emissions limits as long as it burns the primary fuel or a low sulfur #2 fuel oil (<0.5 % sulfur).

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. For Visible Emissions:

This Boiler is assumed to be in compliance with opacity limit as long as it burns the primary fuel listed above.

- c. When the boiler is burning # 2 Fuel Oil the opacity shall be monitored in accordance with item 4.c. below and the sulfur content determined by analysis (see item 4.d.).

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) fuel oil used.
- b. The hours per month of operation for the unit.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance or once per week:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
 3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. Within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
 4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. The permittee shall maintain a certificate of analysis or Material Safety Data Sheet for each load of # 2 Fuel Oil received indicating the sulfur content.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs on the amount of # 2 Fuel oil used.
- b. The total hours of operation for the boiler shall be summarized monthly.
- c. The permittee shall maintain the analysis of the sulfur content for each load of # 2 Fuel Oil received or maintain a copy certificate of analysis or MSDS from the supplier for each load obtained.
- d. Specific records (monthly production, emissions and visual observations) for this emission unit shall be made available for inspection at the request of the division.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 51-2 - No. 2 - BOILER**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
028(A51-2)	Middle Boiler	51-426-02
Installed - 1970		
Primary Fuel: Natural Gas		
Secondary Fuel: No. 2 Fuel Oil		
Maximum Rated Capacity: 26.8 mmBTU/Hour		

APPLICABLE REGULATIONS:

401 KAR 61:015. *Existing Indirect Heat Exchangers* constructed prior to April 9, 1972.

Regulations Not Applicable:

This Emission unit is not subject to 401 KAR 60:005 (40 CFR Subpart Db) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 1984.

This Emission unit is not subject to 401 KAR 60:005 (40 CFR 60 Subpart Dc) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 6/9/89.

1. Operating Limitations:

- a. The permittee shall use only natural gas or # 2 Fuel oil as the fuel [401 KAR 61:015].
- b. The sulfur content of the # 2 fuel oil shall not exceed 0.5% by weight [401 KAR 61:015].

Compliance Demonstration Method:

- a. The permittee shall monitor and record the monthly natural gas and # 2 Fuel Oil usage as required in **Items 4 and 5** below to demonstrate compliance.
- b. A record of the analysis of percent sulfur of each load of # 2 Fuel Oil or a certificate of analysis from the supplier for each load received shall be maintained.

2. Emission Limitations:

- a. Emission of particulate matter shall not exceed 0.271 lb/mmBTU [401 KAR 61:015 Section 4 (1)].
- b. Emissions of sulfur dioxide shall not exceed 5.30 lb/mmBTU [401 KAR 61:015 Section 5 (1)].
- c. The opacity of visible emission shall not exceed 40% [401 KAR 61:015, Section 4].

Compliance Demonstration Method:

- a. For Particulate Matter and Sulfur Dioxide Emissions:
This Boiler is assumed to be in compliance with particulate matter and sulfur dioxide emissions limits as long as it burns the primary fuel or a low sulfur #2 fuel oil (<0.5 % sulfur).
- b. For Visible Emissions:
This Boiler is assumed to be in compliance with opacity limit as long as it burns the primary fuel or a low sulfur #2 fuel oil (<0.5 % sulfur).
- c. When the boiler is burning # 2 Fuel Oil the opacity shall be monitored in accordance with

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item 4.c. below and the sulfur content determined by analysis (see item 4.d.).

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) fuel oil used.
- b. The hours per month of operation of the unit.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:

1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance or once a week:

- a. if emissions appear normal or none are observed, continue to operate,
- b. if emissions do not appear normal, shutdown and take corrective action;

2. Perform visual checks of all PM EP's weekly while in operation:

- a. if no visual emissions are observed, continue to operate,
- b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. within permit limits, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;

- c. The permittee shall maintain a certificate of analysis or Material Safety Data Sheet for each load of # 2 Fuel Oil received indicating the sulfur content.

3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:

- a. If no visual emissions are observed, continue to operate,
- b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. Within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. emission density relative to normal for that EP (e.g., light, medium, heavy),
3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. The permittee shall maintain a certificate of analysis or Material Safety Data Sheet for each load of # 2 Fuel Oil received indicating the sulfur content.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs on the amount of # 2 Fuel oil used.
- b. The total hours of operation for the boiler shall be summarized monthly.
- c. The permittee shall maintain the analysis of the sulfur content for each load of # 2 Fuel Oil received or maintain a copy of the certificate of analysis or MSDS from the supplier for each load obtained.
- d. Specific records (monthly production, emissions and visual observations) for this emission unit shall be made available for inspection at the request of the division.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**AREA 51-3 - No. 3 - BOILER**

<u>EIS</u>	<u>Description</u>	<u>Equipment Number</u>
046(A51-3)	South Boiler	51-426-03
Installed - 1979		
Primary Fuel: Natural Gas		
Secondary Fuel: No. 2 Fuel Oil		
Maximum Rated Capacity: 42.5 mmBTU/Hour		

APPLICABLE REGULATIONS:

401 KAR 59:015 *New indirect heat exchangers constructed after April 9, 1972* applies to the particulate, sulfur dioxide and visible emissions.

Regulations Not Applicable:

This Emission unit is not subject to 401 KAR 60:005 (40CFR 60 Subpart Db) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 1984.

This Emission unit is not subject to 401 KAR 60:005 (40CFR 60 Subpart Dc) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units* since it was constructed prior to 6/9/89.

1. Operating Limitations:

- a. The permittee shall use only natural gas or # 2 Fuel oil as the fuel [401 KAR 59:015].
- b. The sulfur content of the # 2 fuel oil shall not exceed 0.5% by weight [401 KAR 59:015].

Compliance Demonstration Method:

- a. The permittee shall monitor and record the monthly natural gas and # 2 Fuel Oil usage as required in **Items 4 and 5** below to demonstrate compliance.
- b. A record of the analysis of percent sulfur of each load of # 2 Fuel Oil or a certificate of analysis from the supplier for each load received shall be maintained.

2. Emission Limitations:

- a. Emission of particulate matter shall not exceed 0.271 lb/mmBTU [401 KAR 59:015 Section 4 (1)(b)].
- b. Emissions of sulfur dioxide shall not exceed 0.269 lb/mmBTU [401 KAR 59:015 Section 5 (1)(b)].
- c. The opacity of visible emission shall not exceed 20% [401 KAR 59:015, Section 4 (2)].

Compliance Demonstration Method:

- a. For Particulate Matter and Sulfur Dioxide Emissions:
This Boiler is assumed to be in compliance with particulate matter and sulfur dioxide emissions limits as long as it burns the primary fuel or a low sulfur #2 fuel oil (<0.5 % sulfur).
- b. For Visible Emissions:
This Boiler is assumed to be in compliance with opacity limit as long as it burns the primary fuel or a low sulfur #2 fuel oil (<0.5 % sulfur).

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

- c. When the boiler is burning # 2 Fuel Oil the opacity shall be monitored in accordance with item 4.c. below and the sulfur content determined by analysis (see item 4.d.).

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. Specific Monitoring Requirements:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly (each calendar month) fuel oil used.
- a. The hours per month of operation of the unit.
- c. Visually survey each emission point (EP) where particulate matter (PM) emissions might occur as follows:
 - 1. Perform a visual check of each such emission point (EP) within one hour after the related facility is started up following set-up (e.g. after installing bag(s) in a bag house) or maintenance or once per week:
 - a. if emissions appear normal or none are observed, continue to operate,
 - b. if emissions do not appear normal, shutdown and take corrective action;
 - 2. Perform visual checks of all PM EP's weekly while in operation:
 - a. if no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. Estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 - 1. within permit limits, continue to operate,
 - 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 - 1. color,
 - 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 - 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;

SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Perform visual checks of any PM EP immediately after becoming aware of any malfunction, including malfunction of a control device, if any:
 - a. If no visual emissions are observed, continue to operate,
 - b. for each EP where visual emissions are observed, either:
 - i. estimate opacity of the emission per EPA Reference Method 9. If opacity is perceived to be:
 1. Within permit limit, continue to operate,
 2. above permit limit, shutdown and correct the condition; or
 - ii. record:
 1. color,
 2. emission density relative to normal for that EP (e.g., light, medium, heavy),
 3. estimate the duration of the emission,
 - a. if all three conditions are normal, continue to operate,
 - b. if any are abnormal, shutdown and correct the condition;
4. The permittee shall make a written record of all observations, information and corrective action(s).
- d. The permittee shall maintain a certificate of analysis or Material Safety Data Sheet for each load of # 2 Fuel Oil received indicating the sulfur content.

5. Specific Recordkeeping Requirements:

- a. The permittee shall maintain logs on the amount of # 2 Fuel oil used.
- b. The total hours of operation for the boiler shall be summarized monthly.
- c. The permittee shall maintain the analysis of the sulfur content for each load of # 2 Fuel Oil received or maintain a copy of the certificate of analysis or MSDS from the supplier for each load obtained.
- d. Specific records (monthly production, emissions and visual observations) for this emission unit shall be made available for inspection at the request of the division.

6. Specific Reporting Requirements:

See General Condition F.5.

7. Specific Control Equipment Operating Conditions: None

SECTION C – INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulations and some minimal level of periodic monitoring may be necessary.

The following state regulations may apply:

401 KAR 59:010, New process emissions (PM sources); 63:020, toxic air pollutants; 63:010, fugitive emissions or 61:020 existing process emissions (PM sources).

Chemical Plant**AREA 11**

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
11-407-01	Misc. Storage Tank	6450 Gallons
11-407-05	Oil Weigh Tank	2060 Gallons
11-407-06	Oil/Dithiophosphoric Acid Weigh Tank	2220 Gallons
11-407-07	Misc. Weigh Tank	540 Gallons
11-407-08	Dilution/Hold Tank	6450 Gallons
11-407-09	Intermediate Storage Tank and Blender	6450 Gallons
11-407-10	Vanlube 73 Fin. Prod. Storage Tank	17900 Gallons
11-407-11	"Hot Room" Feed Tank	
11-407-12	"Hot Room " Feed Tank	
11-407-13	Precoat Tank	270 Gallons
11-407-14	Wash Oil Tank #1	508 Gallons
11-407-15	Wash Oil Tank #2	508 Gallons
11-407-16	Portable Decanter Wagon	
11-407-18	Complex Tank	250 Gallons
11-407-17	Portable Vert. Tank	1200 Gallons
11-407-20	Precoat Tank	1200 Gallons
11-407-24	E. Bulk Tank (Vanlube 871)	14500 Gallons
11-407-22	N. Bulk Tank (Mobilad)	10000 Gallons
11-407-23	S. Bulk Tank (Vanlube 8610)	10000 Gallons
11-407-19	W. Bulk Tank (Vanlube 73)	14500 Gallons
11-407-26	Decanter Tank	70 Gallons
N/A	Trench & Sump serving A11 & A14	5000 Gallons
11-407-25	Wastewater Tank	5000 Gallons
--	Molyvan 2000 production & pipeline equip	--
11-407-30	VL Centrifuge Surge Tank	1000 Gallons
11-407-31	VL Centrifuge Solids Recycle Tank	1000 Gallons

SECTION C – INSIGNIFICANT ACTIVITIES**AREA 12**

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
12-407-14	Namate Amine Salt Weigh Tank	1020 Gallons
12-407-03	Misc. Weigh Tank	550 Gallons
12-407-06	Misc. Weigh Tank	750 Gallons
12-407-10	Misc. Feed Tank	1050 Gallons
12-440-02	Metal Salt Reactor	1550 Gallons
N/A	Wastewater Tank	5000 Gallons
N/A	Trench & Sump serving A12, 17 & 17a	5000 Gallons
15-432-02	A15 (a.k.a. A12)Wastewater Evaporation	3500 Gallons

AREA 17

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
17-407-19	NaSO ₄ Concentrator/Evaporator	9600 Gallons
17-407-07	Butyl Namate Storage	16555 Gallons
17-407-24	Emergency Caustic Vent Tank	1000 Gallons
17-407-25	Scrubber Bottom Tank (NaOH Solution)	1000 Gallons
17-407-26	NaSO ₄ Solution Feed Tank	9600 Gallons

AREA 17a

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
17A-407-06	50% Caustic Tank	6000 Gallons
17A-407-05	ROH Charge Tank	50 Gallons
17A-438-01A & 01B	CS ₂ Recovery Unit	250 Gallons
17A-407-07 & 08	CS ₂ /ROH Receiver	250 Gallons
17A-438-03A & 04A	NaSH Receivers (2)	250 Gallons
17A-438-02B	NaSH/H ₂ S Scrubber	250 Gallons
17A-407-09	Emergency NaOH Vent Tank	1000 Gallons
17A-407-04	NaSO ₄ Concentrator/Evaporator	9600 Gallons

(Note - except for 17A-407-04, all A17A equipment above is related to CS₂ Recovery / NaSH Process)

SECTION C – INSIGNIFICANT ACTIVITIES (CONTINUED)**AREA 18**

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
18-407-01	Intermediate (NaSO ₃ or NaSO ₄) Tank	5500 Gallons
18-407-02	Product (NaSO ₄) Tank	20300 Gallons

AREA 20

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
20-407-17	Wastewater Tank #1	5000 Gallons
N/A	Trench and Sump System	5000 Gallons
20-440-03	Evaporator/Concentrator	6000 Gallons

AREA 21

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
21-407-06	Mix (Butanol) Tank	1000 Gallons
21-407-09	Butanol Tank #2103	5600 Gallons
21-407-04	Glycerol Tank	5000 Gallons
21-407-05A	NaSO ₄ Tank	3000 Gallons
21-407-05B	NaSO ₄ Tank	3000 Gallons
21-407-07	Caustic Tank #2101	10500 Gallons
21-407-08	Sulfuric Acid Tank #2102	5400 Gallons
21-407-11	Sulfuric Acid Charge Tank	320 Gallons
21-407-16	Silicon Oil Tank	32 Gallons
21-407-18	T3 Collector Tank	110 Gallons
21-407-19	T4 Collector Tank	140 Gallons
21-407-20	Silicon Oil Expansion Tank	60 Gallons
21-407-17	Silicon Oil Expansion Tank	17 Gallons
21-407-14	Evaporator/Concentrator	10000 Gallons
N/A	Trench and Sump System	5000 Gallons

AREA 31

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
31-407-17	Process Water Tank	1100 Gallons
NA	CS2 Tank Pit (Water)	130000 Gallons

AREA 42

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
NA	Fuel Oil/Diesel Tanks (3)	300 Gallons

AREA 43

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
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SECTION C – INSIGNIFICANT ACTIVITIES (CONTINUED)

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
N/A	Firewater Ponds (2)	500000 Gallons

AREA 51

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
51-407-01	Fuel Oil/Diesel Tanks	20000 Gallons
51-407-02	Fuel Oil/Diesel Tanks	20000 Gallons
51-407-03	Fuel Oil/Diesel Tanks	10000 Gallons

AREA 72

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
N/A	Gasoline	100 Gallons

H₂O₂ Fugitive Emissions

<u>Plant Identification</u>	<u>Facility Description</u>	<u>Capacity (size/rate)</u>
N/A	Fugitive Emissions from handling H ₂ O ₂ in drums	350000 lbs/year

Chemical Plant Fugitives

(Emission estimates are based on SOCFI emission factors)

SECTION C – INSIGNIFICANT ACTIVITIES (CONTINUED)

Process Area	lbs/yr.	Valves*	Flanges*	Pumps*
Area 11 Process	1485	304	188	6
Area 12 Process	1623	240	246	6
Area 13 Batch Still	717	34	41	1
Area 14 Process	572	44	42	0
Area 17 Process	860	78	67	0
Area 17a Recovery	159	17	10	2
Area 17a Process	183	47	47	3
Area 20 Batch Still	287	26	17	1
Area 20 AST's	609	20	18	2
Area 20 Process	367	76	55	8
Area 21 Process	204	16	24	1
Area 31 Tanks	1691	453	378	18
Total (VOC)	8755(4.38 TPY)	1355	1133	48

*Best estimated count.

MINERAL PLANT

The following are identified as “wet processes” and will not have particulate emissions, therefore they are identified as “insignificant activities.”

Plant Identification	Facility Description	Capacity (size/rate)
83-453- 01	Ball Mill	13,333 lbs/hour gel
83-453- 02	Ball Mill	6,667 lbs/hour gel
83-456- 01,02	Screens (2)	13,333 lbs/hour gel
83-437- 01,02	Centrifuges (2)	13,333 lbs/hour gel
83-407-11 to 15	Misc. Additives Tanks (5) Aqueous Materials	Varies 70 to 675 gallons
83-407-07,08,09	Gel Tanks (3)	10,000 Gallons
83-407-10	Gel Tank	3,000 Gallons

Note: Area 83 of the Minerals Plant processes clay slurries or gel therefore has no emissions

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

As required by Section 1b of the material incorporated by reference in 401 KAR 52:020, Section 10; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

SOURCE WIDE EMISSIONS OF HYDROGEN PEROXIDE

Note: Hydrogen Peroxide may be used in all Areas of production, but all emissions losses are accounted for through Area 44 tank identified in Section B. These are State origin requirements based on 401 KAR 63:021.

APPLICABLE REGULATIONS:

401 KAR 63:021, *Existing sources emitting toxic air pollutants*, effective date January 19, 1999 applies to sources in existence on the effective date of the regulation which were issued a permit with conditions based on 401 KAR 63:022. The source is required to comply with all conditions based on 401 KAR 63:022 unless it can demonstrate that a condition is no longer necessary to protect human health and the environment.

1. **Operating Limitations:** None

2. **Emission Limitations:**

- a. Pursuant to 401 KAR 63:021, the source wide emissions of hydrogen peroxide shall not exceed 0.3187 lb/hr.
- b. Hydrogen peroxide emissions as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

Compliance Demonstration Method:

Hourly Emission Rate = [Monthly Consumption Rate (10^6 gallons) of Hydrogen Peroxide x (74.74 lbs/ 10^6 gallons)]/Monthly hours of operation.

Note: The emission factor includes the control device efficiency.

3. **Testing Requirements:**

Pursuant to 401 KAR 59:005, Section 2(2), 401 KAR 50:045, Section 1, performance testing using Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the division.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the monthly consumption of hydrogen peroxide from each process and the hours of operation per month.

5. **Specific Recordkeeping Requirements:**

- a. The permittee shall maintain logs on the gallons of hydrogen peroxide consumed each month from each respective process.
- b. Usage and emission calculations for the respective emissions unit shall be summarized monthly.
- b. Specific records including monthly usage and emissions of hydrogen peroxide shall be made available for inspection at the request of the division.

6. **Specific Reporting Requirements:**

**SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING
REQUIREMENTS (CONTINUED)**

See General Condition F.5.

7. Specific Control Equipment Operating Conditions:

Refer to **Section B.7.** under the respective production area and emission unit.

SECTION E – SOURCE CONTROL EQUIPMENT REQUIREMENTS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
2. For any affected facility including associated air pollution control equipment that is subject to an emission standard under 40 CFR 63, Subpart A, the permittee shall comply with the startup, shutdown, and malfunction requirements described in 40 CFR 63.6 (e)(3).
3. For compliance demonstration purposes, the permittee shall:
 - a. Maintain logs of the operating parameters for the respective control device.
 - b. Summarize total production of processes venting to the respective control device.
 - c. Calculate the emissions monthly.
 - d. The permittee shall maintain daily logs for each control device and provide monthly summary production reports for each process as required by section F.5.
 - e. The permittee shall ensure that a water seal is present on all CS₂ storage and weight tanks at all times when CS₂ is present, and shall keep a log documenting the presence of these seals.
4. Deviations from the following control device parameters shall be reported in accordance with **Section F.6**.

Operating Parameters for the A-16 Scrubber

Parameter	Monitoring Frequency	Acceptable Range
Monitor differential pressure across column {if lose differential pressure use vacuum on seal pots}	Check Once per Shift	Observe and Record
Scrubber Liquid pH	Check Once per Shift	>11 pH (Caustic Sys) <4 pH (Acid Sys)
Scrubber Fluid Flow Rate {Monitor scrubber pump pressure if lose scrubber fluid flow}	Check Once per Shift	Observe and Record

SECTION E – SOURCE CONTROL EQUIPMENT REQUIREMENTS (CONTINUED)

Operating Parameters for the A17 Fiberglass Scrubber

Parameter	Monitoring Frequency	Acceptable_Range
Monitor differential pressure across column {if lose differential pressure use vacuum on seal pots}	Check Once per Shift	Observe and Record
Scrubber Liquid pH	Check Once per Shift	>11 pH (Caustic Sys)
Scrubber Fluid Flow Rate {Monitor scrubber pump pressure if lose scrubber fluid flow}	Check Once per Shift	Observe and Record

Operating Parameters for the Area 20 Scrubber System

Parameter	Monitoring Frequency	Acceptable Range
Monitor differential pressure across column {if lose differential pressure use vacuum on seal pots}	Check Once per Shift	Observe and Record
Scrubber Liquid pH	Check Once per Shift	>11 pH (Caustic Sys) <4 pH (Acid Sys)
Scrubber Fluid Flow Rate {Monitor scrubber pump pressure if lose scrubber fluid flow}	Check Once per Shift	Observe and Record

Operating Parameters for the Area 21 Scrubber System

Parameter	Monitoring Frequency	Acceptable Range
Monitor differential pressure across column {if lose differential pressure use vacuum on seal pots}	Check Once per Shift	Observe and Record
Scrubber Liquid pH	Check Once per Shift	>11 pH (Caustic Sys)(at the start of each batch)
Scrubber Fluid Flow Rate {Monitor scrubber pump pressure if lose scrubber fluid flow}	Check Once per Shift	Observe and Record

Operating Parameters for the VG - 6 Spray Dryer Scrubber

Parameter	Monitoring Frequency	Acceptable Range
Scrubber Liquid Flow Rate	Check Once per Shift	160 ≤ Flow ≤ 260 (GPM)
Scrubber Column Pressure Drop	Check Once per Shift	13 ≤ ΔP ≤ 25 (in-H ₂ O)

**SECTION E – SOURCE CONTROL EQUIPMENT REQUIREMENTS
(CONTINUED)****Operating Parameters for all Carbon Disulfide (CS₂) Tanks**

Parameter	Monitoring Frequency	Acceptable Range
Water Seal on all storage or weigh tanks	Before charging CS ₂ to any storage or weigh tank	≥ 2 inches deep
Maintain a log and record the checks on the raw material inventory or batch production records as appropriate.		

SECTION F – MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENT

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
 - a. Date, place as defined in this permit, and time of sampling or measurements.
 - b. Analyses performance dates;
 - c. Company or entity that performed analyses;
 - d. Analytical techniques or methods used;
 - e. Analyses results; and
 - f. Operating conditions during time of sampling or measurement.[Material incorporated by reference by 401 KAR 52:020, Section 1b (IV)1]
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [Material incorporated by reference by 401 KAR 52:020, Sections 1b(IV) 2 and 1a(8)]
3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
 - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
 - b. To access and copy any records required by the permit;
 - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
 - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
 - e. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.
5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation.

**SECTION F – MONITORING, RECORD KEEPING, AND REPORTING
REQUIREMENT (CONTINUED)**

[Material incorporated by reference by 401 KAR 52:020, Section 1b (V)1.]

6. The semi-annual reports are due prior to January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.
7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
 - a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
 - b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.
8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6. [Material incorporated by reference by 401 KAR 52:020, Section 1b V 3, 4.]
9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
 - a. Identification of the term or condition;
 - b. Compliance status of each term or condition of the permit;
 - c. Whether compliance was continuous or intermittent;
 - d. The method used for determining the compliance status for the source, currently and over the reporting period, and
 - e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

**SECTION F – MONITORING, RECORD KEEPING, AND REPORTING
REQUIREMENT(CONTINUED)**

The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

**Division for Air Quality
Paducah Regional Office
4500 Clarks River Road
Paducah, KY 42003**

**Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601**

and

**U.S. EPA - Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960**

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.
11. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G – GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including termination, revocation and reissuance, revision or denial of a permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 3]
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 6]
3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
 - a. If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
 - b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
 - c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon requested by the cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 7,8]
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority. [Material incorporated by reference by 401 KAR 52:020, Section 7(1)]

SECTION G – GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 14]
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 4]
8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 15)b]
9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6). [Material incorporated by reference by 401 KAR 52:020, Section 1a, 10]
10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 52:020, Section 11(3)(b)]
11. This permit does not convey property rights or exclusive privileges. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 9]
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry. [401 KAR 52:020, Section 11(3)(d)].
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders. [401 KAR 52:020, Section 11(3)(a)]
15. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of a permit shall be considered compliance with:
 - (a) Applicable requirements that are included and specifically identified in the permit and
 - (b) Non-applicable requirements expressly identified in this permit.
16. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G – GENERAL PROVISIONS (CONTINUED)

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the division. [401 KAR 52:020, Section 12]
2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the division after the completeness determination has been made on any application, by whatever deadline the division sets. [401 KAR 52:020 Section 8(2)]

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).
2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

1. Construction of process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.
2. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Paducah Regional Office listed on the front of this permit in writing, with a copy to the division's Frankfort Central Office, notification of the following:
 - a. The date when construction commenced.
 - b. The date of start-up of the affected facilities listed in this permit.
 - c. The date when the maximum production rate specified in the permit application was achieved.

SECTION G – GENERAL PROVISIONS (CONTINUED)

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the cabinet may extend these time periods if the source shows good cause.
4. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the cabinet.
5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance test on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. These performance tests must also be conducted in accordance with General Provisions G(d)6 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such performance test.
6. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the division shall be notified of the actual test date at least ten (10) days prior to the test.

(e) Acid Rain Program Requirements

If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

(f) Emergency Provisions

SECTION G – GENERAL PROVISIONS (CONTINUED)

Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:

- a. An emergency occurred and the permittee can identify the cause of the emergency;
 - b. The permitted facility was at the time being properly operated;
 - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
 - d. The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within ten (10) working days of the time when emission limitations were exceeded due to the emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
 - e. This requirement does not relieve the source from other local, state or federal notification requirements.
2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement. [401 KAR 52:020, Section 24(3)]
 3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:020, Section 24(2)]

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

**RMP Reporting Center
P.O. Box 3346
Merrifield, VA, 22116-3346**

2. If requested, submit additional relevant information to the division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

SECTION G – GENERAL PROVISIONS (CONTINUED)

- a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166.
 - e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H – ALTERNATE OPERATION SCENARIOS

Not Applicable

SECTION I – COMPLIANCE SCHEDULE

To implement any new monitoring, recordkeeping or reporting requirements included in this permit, the division hereby authorizes one-hundred twenty (120) day compliance schedule, beginning with issuance of the final permit.

Within 120 days of final permit issuance the permittee shall establish control device operating parameters (acceptable ranges) for those not reported in the Title V operating permit application.

SECTION J - ACID RAIN

Not Applicable